CLC status

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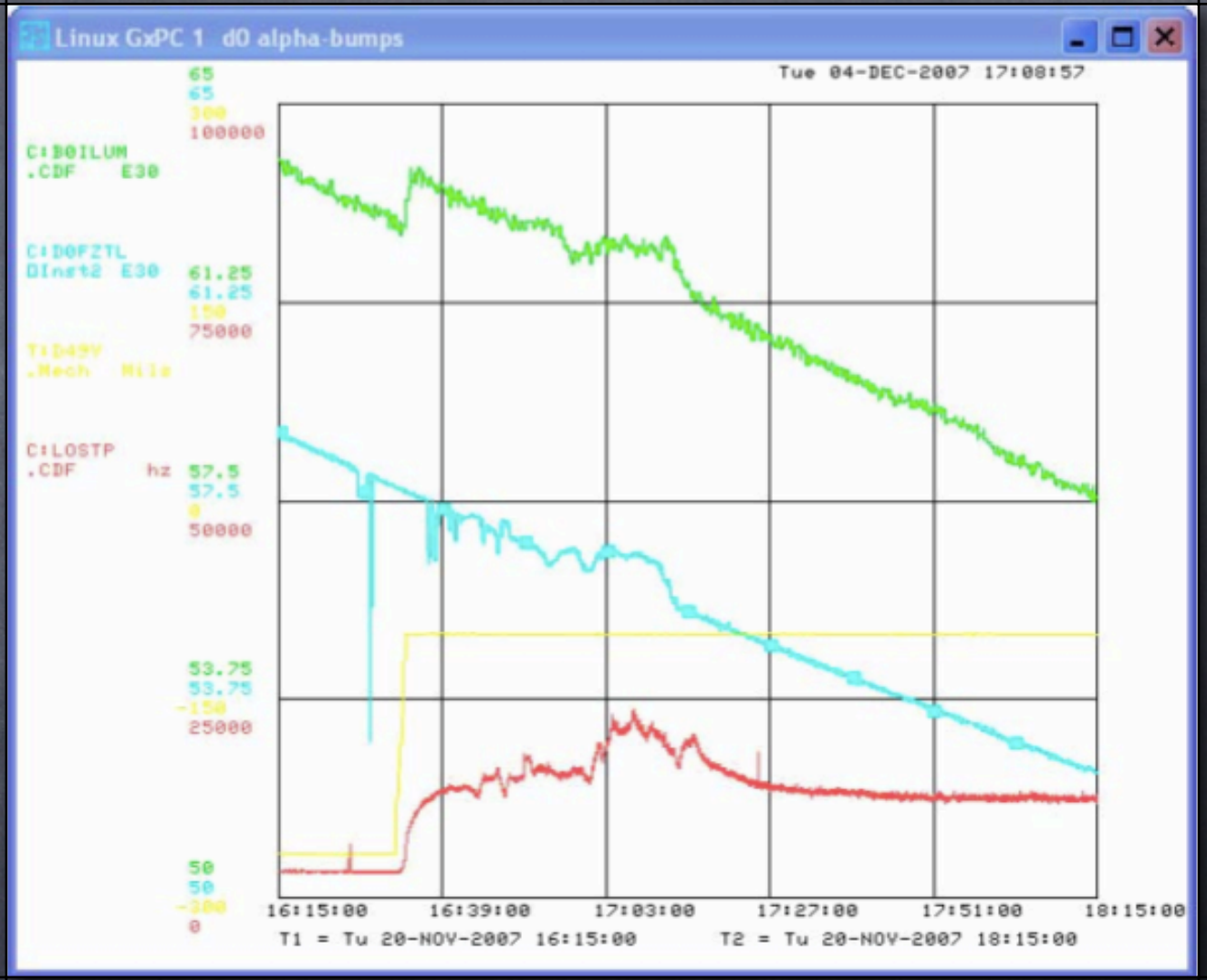
Summary

- Effect on luminosity measurement due to:
  - Loses
  - Defective PMT bases

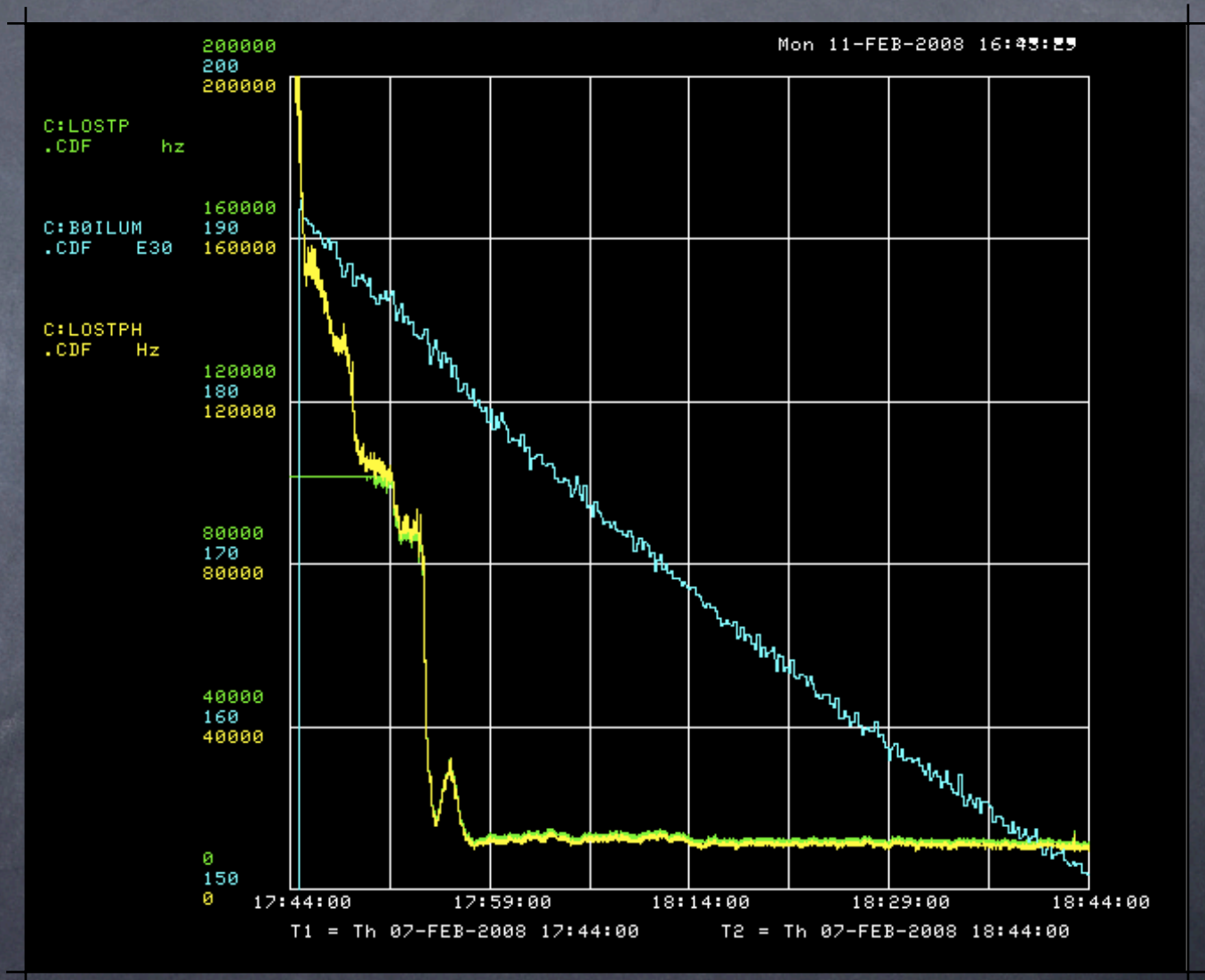
Loses part I

- Plot presented on the last meeting
- Store #5737
- D0 waist position scan
- Luminosity is affected. Why?
- Due to loses or it's a real effect



Loses part II

- Store #5791
- "The proton vertical tune landed low and needed to be raised. Also, several collimator moves were needed"
- Loses are >5 times higher
- Luminosity is **NOT** affected

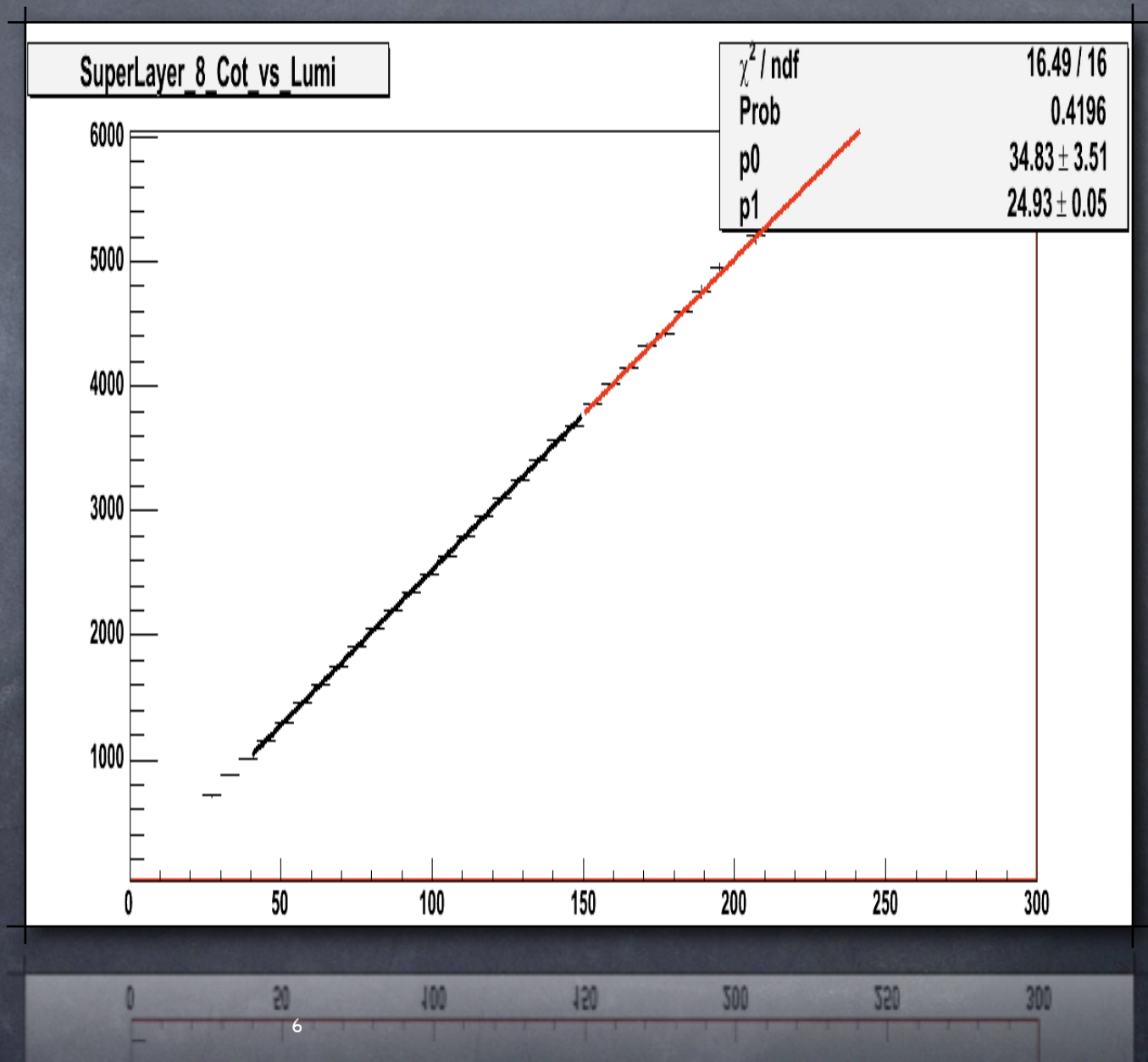


PMT bases effect

- Luminosity is proportional to # of interactions and => # of particles produced per bunch crossing
- Currents in COT is proportional to # particles produced per bunch crossing
- So, we expect a linear dependence of currents in COT on instantaneous luminosity
- To make a rough estimate of the effect of defective bases on luminosity measurement, we check the slope of COT currents vs luminosity before and after bases replacement

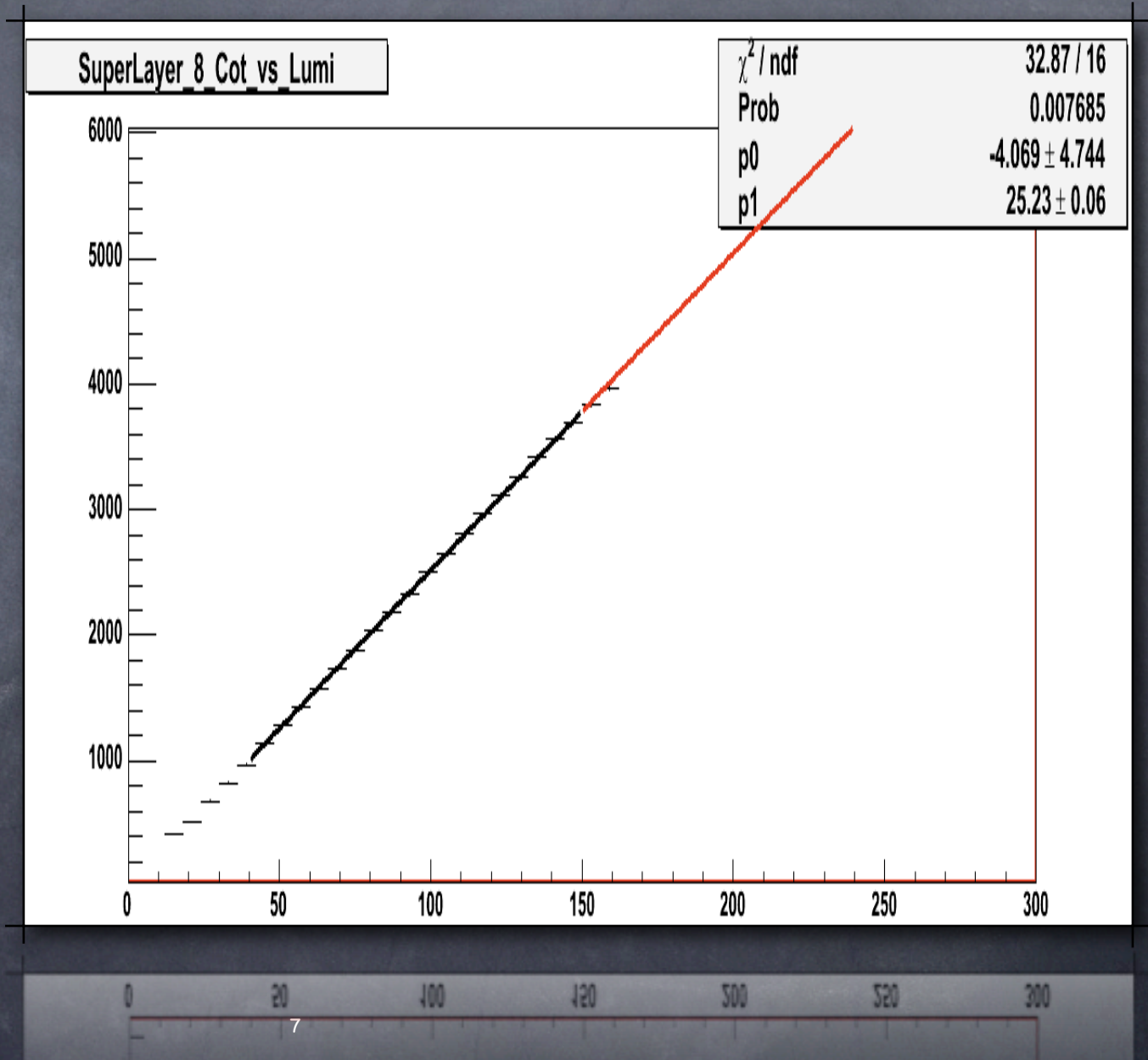
COT vs CLC before

- Data collected in July 2007
- Before shutdown and bases replacement



COT vs CLC after

- Data collected in November 2007
- After shutdown and bases replacement
- Difference in slope is 1%, which is well covered by 4.2% uncertainty due to measurement



Conclusion

- Store #5791 shows no dependence of CDF luminosity on losses
- COT currents vs luminosity plots reveal no significant impact of defective bases on luminosity measurement
- CLC works well…as usual